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ISSN: 1444-8890

ECONOMIC THEORY, APPLICATIONS AND ISSUES

Working Paper No. 73

Rent Extraction, Population Growth and Economic Development: Development Despite Malthus' Theory and Precursors to the Industrial Revolution

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Clem Tisdell

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THE UNIVERSITY OF QUEENSLAND

ISSN 1444-8890

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Clem Tisdell[2]

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Serge Svizzero[3]

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[1] The draft of an article to be included in a volume of essays in honour of Professor Sanat Kumar Saha to be edited by Mohammad Alauddin, Mustafa K. Mujeri and Dilip Kumar Nath.

[2] School of Economics, The University of Queensland, St. Lucia Campus, Brisbane QLD 4072, Australia Email: c.tisdell@economics.uq.edu.au

[3] Faculté de Droit et d'Economie, Université de La Réunion, France. Email: serge.svizzero@univ-reunion.fr

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Rent Extraction, Population Growth and Economic Development: Development Despite Malthus' Theory and Precursors to the Industrial Revolution

ABSTRACT

Several contemporary economists claim that 'real' economic development only occurred following the Industrial Revolution. We contend that this is only so if a narrow view is taken of what constitutes economic development, namely increasing per capita income. Given a wider perspective, we argue that economic development occurred in hunter-gatherer societies and eventually accelerated in the second stage of the Agricultural Revolution. During this stage, a small dominant class (the elite) were able to extract rent (the economic surplus) from the mass of the population (the dominated) which they could use for development purposes. As a result of this rent extraction, the bulk of the population remained at subsistence level. Nevertheless, dissipation of the rent as a result of population increase was prevented. Consequently, the Malthusian trap could be avoided and the economic surplus could be used by the elite for development or other purposes. Whether or not economic development occurred depended on how the elite allocated the economic surplus. In the second stage of the Agricultural Revolution, the economic surplus was extracted primarily in the form of staples and the exchange of commodities was mostly directly controlled by the elite. This situation changed as states became larger in size and commodities became more diverse. In the few centuries preceding the Industrial Revolution in Europe, monarchs exerted decreasing direct control over the exchange, production and use of commodities. This was particularly noticeable in England. Also devolution of increased political power to nobles and local areas added to principal-and-agent problems. Sovereigns, instead of concentrating on the extraction of the economic surplus in the form of staples, increasingly relied on its extraction and storage in the form of treasures, precious metals and gems. Monarchs (in order to maximize their net extraction) focused on increasing the number of different markets and the extent of these but at the same time, extracted rent from them in the form of levies. Consequently, this Age of Mercantilism was marked by a substantial expansion in marketing even though this was combined with royal imposts on markets. This increase in marketing activities helped to pave the way for the Industrial Revolution by altering the balance of political power and facilitating sales of the products of the Industrial Revolution. Despite this, it seems likely that the Industrial Revolution only happened as a result of the chance occurrence of a combination of events. It was not inevitable.

Keywords: economic development, economic surplus, Malthus, pre-industrial economics, rent extraction.

JEL Classification: N00, O1

Rent Extraction, Population Growth and Economic Development: Development Despite Malthus' Theory and Precursors to the Industrial Revolution

1. Introduction

Several influential contemporary economists (for example, Clark, 2007; Ashraf and Galor, 2011) argue that economic development was virtually absent in pre-industrial societies because of the operation of Malthus' law of population growth. These societies are depicted as being caught in the Malthusian trap and consequently, their per capita income remained at subsistence level or nearly so. It is claimed that only after the Industrial Revolution was it possible to escape this trap and for 'real' economic development (resulting in rising per capita incomes) to occur. Therefore, these influential scholars see the Industrial Revolution as the great divide between the economic stagnation of ancient economies and economic growth and development associated with modern economies.

We are of the view that increased per capita income should not be taken as the sole indicator of economic and social development. If this is accepted, it is clear that several pre-industrial societies displayed considerable economic and social development, without which the Industrial Revolution may not have occurred. However, we do not deny that the dynamics and processes involved in economic growth and developed changed dramatically following the Industrial Revolution and enabled many societies to escape from the Malthusian trap.

The purpose of this contribution is to show how it was possible for some pre-industrial societies to achieve economic and social development despite Malthus' law of population growth applying to the vast majority of their population. We also speculate about how and why centralized systems of governance that emerged in some societies following the Agricultural Revolution were eventually replaced by more decentralized economic decision-making structures which paved the way for the Industrial Revolution.

This contribution is developed as follows: first, some background information is given first on the socioeconomic nature of hunter-gatherer societies and about the first phase of the Agricultural Revolution. Attention is subsequently given to the second phase of the Agricultural Revolution which enabled hierarchical centralized economic systems controlled

by a dominant class to emerge. In this stage, nation states evolved. Their rulers controlled economic activity over a wider geographical area than previously, and they were also able to benefit from the intensification and extension of agriculture. We then speculate about institutional and historical developments in Europe which resulted in greater decentralization of economic decision-making and the weakening of the political and economic power of a small dominant class. This facilitated the occurrence of the Industrial Revolution. Discussion and concluding comments follow.

Taking into account economic history, this chapter provides a broad theory of the economic development of some ancient societies. In doing so, it concentrates mainly on the second phase of the Agricultural Revolution and speculates on the genesis of the Industrial Revolution. It pays attention to interdependence between economic development and the evolution of social and political structures.

2. Economic Development in Hunter-Gatherer Societies and in the First Phase of Agriculture

Economic development did occur in most hunter-gatherer societies albeit at a slower pace than after the commencement of agriculture. New technologies and new uses of natural resource (innovations) emerged in these societies, particularly as migration to new territories occurred, and the new arrivals had to adapt to new environments. Some capital accumulation also occurred such as the manufacture of tools of various kinds, weapons, nets for fishing, the building of fishing traps and so on. More sedentary groups of hunters and gatherers (such as those on the west coast of North America or around the Baltic Sea) with access to abundant and reliable sources of seafood (anadromous fish, sea mammals, shellfish) were able to invest in permanent housing.

Globally, the socioeconomic systems of hunter-gatherer groups were diverse. This was partly a consequence of their dependence for their livelihoods on their local natural environments which globally were very diverse. Although tribal groups were not completely isolated from one another, the geographical range of contact between such groups was limited in ancient times. This may have also contributed to the global social diversity of tribal groups.

Scholars have had divergent views about the well-being of individuals in hunter-gatherer societies. On the other hand, Hobbes (1651) believed that their life was dismal, brutish and

short. On the other hand, Sahlins (1968; 1974) was of the view that many tribal societies had in high level of economic welfare and described them as being affluent. Some scholars also argue that ancient tribal societies limited growth in the levels of their population, thereby keeping their per capita income levels above subsistence level. On the other hand, it has also been claimed that population increase in these societies contributed to the emergence of agriculture as a means of obtaining a livelihood (Cohen, 1977).

There is disagreement about why agriculture emerged in the Holocene (Anthropocene) era (see, for example, Svizzero and Tisdell, 2014a). However, it did begin some 9,000 years ago in the Levant and subsequently and independently, in other parts of the world. Transition to agriculture was most likely gradual in communities which adopted it. It was combined with hunting and gathering. Only with increasing experience with agriculture did communities adopting agriculture increase their reliance on it as a means of subsistence. It would have yielded little or no economic surplus in its initial phase. However, eventually in some parts of the world, it yielded a substantial food surplus which was storable and able to be transported with relative ease. This enabled the second phase of the Agricultural Revolution to occur.

For analytical purposes, Childe (1936 [1965]) described the first phase of the development of agriculture as being the First Agricultural Revolution and the second phase as being the Second Agricultural Revolution. In practice, transition from the first phase to the second phase was probably gradual, and some early adopters of agriculture were unable to transit to the second phase because of the nature of their natural resource endowments.

In the Neolithic period, local plants and animals capable of being domesticated for use in agriculture differed considerably between regions, as did climatic conditions and the availability of other natural resources capable of supporting agriculture (Larson et al., 2014). Some tribal groups (such as the Australian Aborigines) failed to adopt agriculture because their local natural resources and environments were not amenable to it. Others continued to rely on hunting and gathering even though they could have adopted agriculture at an early stage because they had suitable natural resources for the pursuit of agriculture and knew that some other communities had adopted it (Svizzero and Tisdell, 2015). Furthermore, some early adopters of agriculture were unable to transit from its first phase to its second phase, for example, tribal groups in New Guinea where agriculture was garden-based and did not yield a storable agricultural surplus.

In several parts of Eurasia (including North Africa), as well as in some parts of the Americas, transit to the second phase of agriculture was possible and occurred. Arguably, the second phase of agriculture was able to evolve to a higher level in parts of Eurasia and Northern Africa than elsewhere because of the wide range of wild plants and animals that could be domesticated to support economic development in this stage. Consider this matter further.

3. The Second Phase of Agriculture

The main condition required for transit from the first phase to the second phase of agriculture was the ability of agriculture in a region to produce a surplus of storable and easily transportable food. Where agriculture was able to supply a surplus of grains (of cereals or legumes) this was propitious for the commencement of the second phase of agriculture. Irrigation schemes, the early plough, the use of draught animals (all innovations in early times in Eurasia) enabled the agricultural surplus to increase. Improved transport systems based on the introduction of the wheel and sails on boats also contributed to economic development.

Agriculture did not enter the second phase in New Guinea because it was mainly based on the cultivation of tubers and fruit which did not store and transport easily. New Guinea also had no animals that could be harnessed to provide draught power. Large towns or cities, therefore, did not evolve in New Guinea nor a society dominated by a small elite. This however, was not the case in parts of Eurasia, the Americas and Africa.

The agricultural surplus which emerged in the latter regions and the type of innovations mentioned above enabled sizeable towns or cities to develop as well as a centralized economic systems dominated by a small ruling group. The rulers (the dominant class) were able to appropriate the economic surplus (economic rent) produced by the mass of the population, thereby, keeping the per capita income of the masses at subsistence level.

This system had two major consequences:

- It prevented the mass of the population increasing in numbers to absorb all the agricultural economic surplus, or in other words, it prevented the dissipation of the (absolute) economic rent available from agriculture.

- It provided the economic means for the dominant class to foster economic development, if they chose to do so and if they were not prevented from doing this by the need to use most of this surplus for defence purposes.

The specific theory is outlined in Tisdell and Svizzero (2015) and also discussed in Svizzero and Tisdell (2014b). If it is accepted that the discretionary economic surplus available to the ruling class consisted of the remaining sum after allowing for defence, it could be used for the following purposes:

1. Economic development, for example the building of infrastructure (for instance, irrigation works for agriculture) and for advancing knowledge.
2. Ostentations and glutinous consumption by the ruling class.
3. For the conduct of war, as distinct from defence.

The ruling class in these ancient societies usually included priests and the monarch frequently claimed divine powers. An increase in the share of the surplus used for the purposes of consumption reduced the amount available for economic development as did the allocation of a larger share to war and defence. In some cases, the successful conduct of war provided extra resources for the economic development of the belligerent state and increased its opportunities for the exchange of commodities in the geographically extended state (Haywood, 2010).

Avoiding the Malthusian trap in the second phase of the Agricultural Revolution depended not only on the economic exploitation of the masses. It also depended on restrictions on the numbers of the dominant class. This was achieved in several ways. These basically were:

1. Restricting entry to this class (for example, by birth).
2. Primogeniture rules governing inheritance (e.g. the *Salic law* which initially was the major body of Frankish law).
3. The periodic overthrow of an existing ruling class by foreign powers or the successful internal revolts resulting in a small number of the victors becoming the new ruling class.

If the population of the ruling class were to increase in accordance with Malthus' law, eventually all the economic surplus would have been dissipated in these societies.

By promoting capital accumulation, innovations and increases in knowledge, the dominant class was able to increase its economic surplus, as we have shown elsewhere (Tisdell and

Svizzero, 2015; see also Svizzero and Tisdell, 2014b). Improvements in social organization (additions to social capital) also proved to be advantageous to the ruling class.

The social and economic system, however, was basically a top down centralized one. Exchange and access to commodities was mainly in the hands of the rulers. For instance, the Aegean Late Bronze Age (1600-1100 B.C.) elites were concerned with the control of markers of status and prestige. This became institutionalized in palatial control of the production and consumption of prestige goods, whether through control of the raw (and often imported) materials or the distribution of the finished goods to selected consumers (Chadwick, 1994). This underpinned their political power. Economic development depended on the inclination of the rulers, and the masses obtained little or no benefit from the system. Nevertheless, the system did enable considerable economic development to occur in some parts of Eurasia and North Africa, as well as parts of the Americas. However, various historical developments in Europe resulted in this system being eventually supplemented by a new socioeconomic system relying to an increased extent on representative government and market freedoms as means of managing resource use. These developments played an important role in facilitating the commencement of the Industrial Revolution and subsequent escape from the Malthusian trap. As a result, many countries because they were able to escape the Malthusian trap achieved demographic transition and rising per capita income levels.

4. Precursors to the Occurrence of the Industrial Revolution

One cannot be certain why the Industrial Revolution began in England and spread later to other European countries, and subsequently more widely. However, in England it was preceded by a reduction in the power of the monarch and the church, and a reduction in the power of central authorities in controlling the exchange of commodities. Exchange became the province of a growing merchant class rather than the ruling elite.

In the medieval system, the monarch considered nobles to be his/her agents. In England, however, they were able to sporadically achieve increasing economic and political power thereby challenging the authority of the monarch. This seems to have happened also elsewhere in Europe. It posed an increasing threat to the established hierarchical political order with the Catholic Church and the monarchs at its apex. Indeed, it has been suggested that one of the reasons why Pope Urban II instigated the First Crusade (which began in 1096) was to divert the energies of the knights to external aggression rather than fomenting dissent

and fighting among themselves within the European sphere (Phillips, 2011, p. 41).

In England, the ability of the nobles to get King John to assent to the Magna Carta in 1215 was one sign of their growing political power and an indicator of the weakening absolute power of the monarch. Furthermore, the power exercised by the Roman Catholic Church over economic political and social affairs in England was ended by Henry VIII's decision to create the Church of England and to confiscate and redistribute the estates of the Catholic Church. Developments following the Reformation generally reduced the authority and influence on socioeconomic affairs of the hierarchical Catholic Church and allowed increasing diversity of thought and devolution of power in societies.

Prior to the Industrial Revolution, markets developed (grew in importance) which were either not controlled by the Crown or only partially controlled by it. Adam Smith in his theory of the stages of economic development, in his lectures on jurisprudence, edited by Meek et al. (1978), described this as the Age of Commerce. Trade was mostly in the hands of merchants and not conducted to any great extent by the Crown and the nobility. Compared to earlier civilizations in the second phase of the Agricultural Revolution, central authorities exerted less control over the supply of staples and relied less on the appropriation of economic surpluses of these. Emphasis shifted to amassing treasures, such as gold and other precious metals as well as jewels under the Mercantile System. Monarchs extracted fees from merchants for trading rights. This resulted both in Monarchs encouraging the extension of markets and also restricting trade in individual markets. Eventually, this weakened the political power of the monarch (and nobles) and strengthened the political power of commercial interests. This resulted in increased agitation by commercial interests for less central control of markets and a reduction in the political power of the monarch.

According to Hill (2013, p. 5), 'the seventeenth century is decisive to English history, the epoch in which the Middle Ages ended'. In that century, events occurred in England 'which ensured that henceforth governments would give greater consideration to commercial considerations. Decisions taken during this century enabled England to become the first industrial imperialist great power, and ensured that it should be ruled by a representative assembly. Within the seventeenth century the decisive decades are those between 1640 and 1660. In these decades the decisive figure is Oliver Cromwell.' (Hill, 2013, p.6).

5. Discussion

The second phase of the Agricultural Revolution was marked by the appropriation of the agricultural food surplus (in regions where a surplus emerged) by a dominant class and the growth of sizeable towns. Although in some hunting and gathering societies, hierarchical social structures and permanent settlement did exist, they became the norm in the second phase of the Agricultural Revolution. This also led to the development of 'states' controlling larger territories than previously and centralized economic systems. We have shown how it was possible for significant development to occur in the second phase of the Agricultural Revolution, assuming that economic and social development is judged by indicators other than rising per capita income. The other indicators include the accumulation of capital, the extension of knowledge, economic innovations and advances in social administrations.

It was demonstrated how these types of development were possible despite the bulk of the population increasing in accordance with Malthus' law of population growth. This is not to say that the elite always used the economic surplus which they appropriated to foster economic development. Furthermore, in some cases, they had little option but to allocate most of this surplus to the defence of the state.

In these ancient economies, production, access to the economic surplus and exchange (especially international trade) were controlled by the elite. International trade in particular made it possible to add to the value of the economic surplus available to the elite as did the increasing size of the territories controlled by different groups of elites. The latter facilitated territorial exchange, and has been documented as a major factor in the emergence and economic development of the Inca civilization (Haywood, 2010). Haywood (2010, p. 204) states that the Incas developed long-distance trade routes 'linking the coastal fishing communities and the farming communities in the highlands and the Amazon basin. This interaction between the inhabitants of different environmental zones became a major factor in the development of Andean civilization, as empire-building rulers sought to control the resources of as many different zones as possible'.

While in some cases, wars between early states and other social groups were vectors for spreading and advancing development, in many cases, they became an economic burden reducing the discretionary share of the economic surplus of all the belligerents. Their lost shares could have been used for economic and social development. This type of prisoners'

dilemma situation seems to have prevailed in Europe in the Middle Ages.

It was observed that the top-down method of administering the economy and society began to erode in England (and Europe) in the Middle Ages. The political power of the nobles and knights began to increase challenging both the authority of monarchs and the Catholic Church. Before the Industrial Revolution began in England, several precursors were present which facilitated its occurrence. These included the growing devolution of administration and political power to the local level and a considerable reduction in the authority and control by the monarchy and the priesthood of social and economic affairs (Hill, 2013).

In addition, compared to the second phase of the Agricultural Revolution, exchange was no longer directly controlled to any great extent by the ruling class, particularly the monarch. Control was indirect and based on the imposition of taxes and fees for trading rights. The ruling class, especially the Crown, had an interest both in extending the market system and extracting an economic surplus from it. As a result, the merchant class grew in numbers and became economically and politically more powerful. The merchant class and the nobles increasingly resented the economic surplus extracted from them by the monarch and demanded (and obtained) a less centralized system of governance.

It is notable that mercantilism was practiced in the period leading up to the Industrial Revolution. In this period, the sovereign did not appropriate the economic surplus in the form of staples but in treasures such as gold, precious metals and gems. These acted as a medium of exchange and as a store of value. The nature of mercantilism has been outlined, for example, by Mun (1928) in a reprint of his original book published in 1664.

A much earlier exposition of mercantilism is to be found in Kautilya (1961). His exposition was written in the 4th Century, BC but the version only discovered in the 20th century probably contains changes made by later writers. The nature of his economic thought is discussed, for example, in Sen and Basu (2006). See also Tisdell (2006). Kautilya was a minister under the Mauryan ruler, Chandraguptar Maurya.

One issue which arises from the above discourse is whether the development of decentralized exchange (market systems) and a sizeable and influential merchant class dooms top-down centralized systems of governance. This issue remains unresolved. In China, a significant merchant class developed in early times but its system remained politically centralized and it still is. Since commencing its economic reforms in 1978, decentralized markets have played

an increasing role in the management of China's economy and urbanization has gathered pace. Whether that will lead eventually to a multi-party system and greater political contestability is unclear. Hayek (1944) has argued that it will. However, it does not seem to be inevitable. It did not happen at an early stage in Chinese history even though a large merchant class emerged. Hill (2013) also believes that despite the emergence of a significant merchant class in continental Europe, this class accepted the prevailing social status quo. In England, merchants and a significant number of nobles cooperated with Oliver Cromwell to undermine, the political and economic power of the monarch and the Church of England. This paved the way for fewer royal restrictions on trade, increased freedom and extension of markets.

These changes, in all probability, greatly contributed to the development of the Industrial Revolution in England. However, alone they do not explain its success. The commencement and maintenance of the Industrial Revolution in England probably depended on a fortuitous combination of factors. These included Britain's ability to draw on the resources of its far flung empire which also extended its markets for mass production made possible by the Industrial Revolution and eased its population pressure (via outwards migration).

While the development of the mercantile system (which resulted in positive push for market extension but at the same time extracted rents from the market system for use by the monarchy) was in fact a favourable precursor to the Industrial Revolution, it alone was not sufficient for its occurrence. For example, in India the mercantile system was already in place during the period of the Mauryan Empire (in the 4th century BC), that is during the time that Kautilya was writing his *Arthasastra* (*Science of Polity*). Yet the regions of the Indian subcontinent continued to be politically and economically dominated by small elites which still existed at the time of European (mainly British) invasion of this sub-continent.

An interesting question arises: why did monarchs increasingly abandon, after the second Agricultural Revolution, their appropriation of staples and control over their production and exchange, and instead focus on obtaining treasures (such as precious metals and gems) as a store of value and a medium of exchange? Possibly as states become larger, the top-down socioeconomic system of resource management (which we associated with the second phase of the Agricultural Revolution) became less economic because of increased transaction costs and knowledge constraints. As a result, the economic and political functioning of the state had to increasingly rely on agents (merchants and nobles) which added to principal-agent

problems. Furthermore, a greater variety of commodities would have become available and this no doubt added to the difficulty of effective centralized management of resource-use given the relatively poor state of communications at the time. In addition to this, there was probably growing social acceptance of the use of precious metals as a medium of exchange. They became a low-cost means of storing economic value.

It is interesting to note that in the 20th Century both Stalin and Mao Zedong adopted a system for promoting economic growth (in their case, mostly by fostering industrialization) and preparedness for war similar to that which prevailed during the second phase of the Agricultural Revolution. Basically, the agricultural surplus was appropriated by the state for this purpose. While it did achieve its aims for some time (at considerable social cost), the system eventually became inadequate for sustaining economic growth and development, particularly when compared with more decentralized market economies. The reasons for this inadequacy are well known. They include shortcomings in the centralized management and allocation of resource use and barriers to innovation.

Hayek (1944) has argued (as was pointed out above) that the development of market systems resulting in the decentralized management of resource use and considerable non-government control of investment and innovation, weakens the power of centralized governance, and makes for greater contestability in politics. However, the relationship between the development of market systems and the evolution of political contestability (of a democratic nature) seems to be irregular. For example, China developed a large merchant class in ancient times but this did not lead to the same type of political development which occurred in Europe. Consequently, it appears that there is not a single relationship between the development of market systems and the historical evolution of contestable political systems, representing the interests of diverse social groups, typified by the presence of multi-party systems. The historical evolution of human societies is undoubtedly a complex subject in which path dependence is an important ingredient.

6. Concluding Comments

Returning to the main theme of this contribution, during one period in economic history, namely during the second stage of the Agricultural Revolution, a top-down method of resource management involving the extraction of the economic rent (the economic surplus) from the masses by the dominant class enabled (but did not ensure) economic development to

occur. However, as states became larger and commodities more diverse (and centralized economic systems became less innovative), this system lost its effectiveness as a vehicle for economic and social development. The reasons why this type of economic system (characteristic of the second phase of the Agricultural Revolution) evolved and the Industrial Revolution began are unclear and complex. Some of the precursors to the commencement of the Industrial Revolution in Europe, particularly England, were identified. These included the increasing development of markets and a change in the method which monarchs adopted to appropriate the economic surplus. Nonetheless, it seems likely that transition to the Industrial Revolution depended on a number of fortuitous (chance) events and was not deterministic. In other words, it depended on the occurrence of a combination of several chance events in much the same way as Jay Gould (1989; 1990; Gould and Eldredge, 1977) argues that biological evolution has been influenced by chance events. The Industrial Revolution was by no means inevitable.

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